

Deadline for the next
Canyon Echo
is January 14

Tax Breaks for Conservation Won't Last

The State and Federal Governments are willing to help you conserve energy in your home — but not for long. They have been helping by offering tax credits for the installation of solar devices, but the tax credits are being reduced each year and will be completely gone by 1987.

Tax credits are better than a tax deduction. A tax credit is an actual reduction in the amount you must pay. Think of a tax credit as a coupon. If the government hands you a tax bill of \$1,000 and you have a tax-credit-coupon worth \$1,000, you can hand them the coupon instead of the cash and your bill is paid.

What the government is saying is this: if you install a solar device on your home this year you can take 70% of the cost (see the chart below) of the system and use that 70% as a tax-credit-coupon when you are given your tax bill.

As you can see from the chart, each year the amount of tax credit you receive gets smaller. Like all coupons, this special offer has a limited time period.

DETAILED EXAMPLE OF HOW TAX CREDITS REDUCE COST OF SOLAR SYSTEM

| Solar Water Heater | |
|--|------------|
| Solar heater cost..... | \$2,500 |
| Arizona state tax credit (30% of \$2500) | 750.00 |
| Federal tax credits (40% of \$2500) | +1,000.00 |
| Total state & federal tax credits..... | \$1,750.00 |
| Net cost of solar water heater to consumer (\$2,500 - \$1,750)..... | \$750.00 |

(continued on page 4)

How the Environment Fared in the 98th Congress

When the 98th Congress went home in early October, it closed to mixed reviews on environmental issues. While Congress, particularly the Senate, failed to pass reauthorizations of several important pollution control laws (Superfund, Clean Air Act and Clean Water Act), it designated a record amount of wilderness for national forests, parks, and Bureau of Land Management holdings.

"While the Sierra Club and other environmental organizations successfully staved off some of the worst things the administration attempted to drive through the Congress, such as the Clinch River Breeder Reactor and easier nuclear licensing regulations," said David Gardiner, the Club's Legislative Director, "we failed to get most pollution control reauthorizations through Congress — with the notable exception of the Resource Conservation & Recovery Act. In the 99th Congress, our task will be to apply our skills to these reauthorizations."

Wilderness Volunteers Needed

by Tom Wright

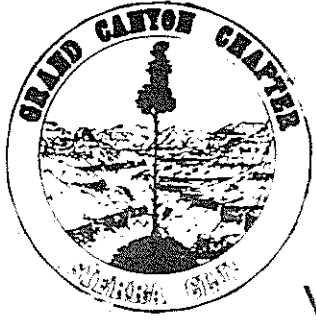
The Arizona Wilderness Coalition met in Phoenix on November 10th & 11th to discuss new priorities for wilderness lands across the state. We've had time to savor our smashing victory on the Forest Service wilderness bill (details in the last Echo), but this is only the beginning. There are still several million acres of potential wilderness on BLM (Bureau of Land Management) lands, Wildlife Refuges, and National Parks and Recreation Areas in Arizona. To give those lands the full measure of protection they deserve, we need to start now — and we need your help!

There is a good possibility that Rep. Morris Udall will introduce a wilderness bill next year for four Wildlife Refuges in Arizona: Kofa, Cabeza Prieta, Imperial and Havasu. The latter two areas include marshy habitat and the adjacent desert mountains along the lower Colorado River, while Kofa and Cabeza Prieta are famed for their vast expanses of pristine Sonoran desert, spectacular mountain and canyon scenery, native palm trees, and large herds of bighorn sheep. Although the broad outlines of the Coalition's wilderness proposals are in place, there is still important work to be done in each of these areas. If you would like to help conduct field studies and boundary checks, or talk with agency personnel and line up local support, please contact:

Yuma — Cary Meister, 782-3552
Phoenix — Joni Bosh, 956-4390
Tucson — Paul Hirt, 882-0830 or
Gert Hochgraf, 888-0062

A wilderness bill for BLM lands is still several years away, but it is crucial that we begin laying the groundwork now. These lands, located mostly in the western half of the state and in scattered parcels near Safford and Tucson, include incomparable wildlands such as Baboquivari Peak, the Gila Box, the Harquahala Mountains, Eagletail Mountains, People's Canyon and Burro Creek. We need volunteers and "adoptors" who are willing to hike in these areas, evaluate their wilderness qualities, draw appropriate boundaries, and work to resolve conflicts and build public support. Since the majority of these BLM units are in the low desert country west of Phoenix and in the Kingman area, the cooler months ahead will be a critical time for field work. The Sierra Club has already scheduled hikes in several BLM units this winter, including the Maricopa Mountains, Butterfly Peak, Woolsey Peak, and Arrastra Mountain. Watch for these in the Outings section — or schedule a trip of your own, if you prefer. If you'd like to help out on BLM wilderness, or if you'd just like more information, please contact:

Yuma — Cary Meister, 782-3552
Kingman/Flagstaff — Dawson Henderson, 774-1571
Tucson/Safford — Paul Hirt, 882-0830
Phoenix — Tom Wright, 947-0155



SIERRA CLUB CANYON ECHO GRAND CANYON CHAPTER

Vol. 20, No. 10

December, 1984 - January, 1985

Nuclear Winter, Silent Spring

Courtesy of the Natural Resources Defense Council

Virtually none of us has any experience with nuclear war, but most of us know winter. It is the time when nature is most harsh and least forgiving. New scientific studies suggest that a nuclear war could trigger a winter more severe than we have ever endured. A man-made nuclear winter would strike societies already crippled by nuclear war, and might be our species' final season.

Any one of several aftereffects of nuclear war — prolonged darkness, unseasonable cold, heavy chemical and radioactive pollution, a jump in ultraviolet rays — would impair the capacity of ecosystems to support human life. Their combined impact would add up to a biological debacle. Food chains would be disrupted from bottom to top.

A nuclear war would especially damage natural systems if it occurred in the spring or summer. Each fall, temperate zone plants and animals slowly prepare to withstand the coming cold, but they could not adapt to the abrupt onset of a nuclear winter. As the daylight fell to a few percent of normal, photosynthesis, the basis of all life, would be reduced or halted. Freezing temperatures, too, would kill or damage plants.

At any time of the year, many animals would simply freeze to death. Surviving animals would lose much of their food supply and some would die of thirst, their water sources frozen solid. Intense radiation would kill many higher animals and kill or damage certain plants, particularly conifers.

Harsh acid rains and toxic smogs would further harm ecosystems and slow their recovery. The heightened ultraviolet rays would cause blindness among animals and people and reduce the productivity of plants, including phytoplankton (the foundation of the marine food chain). In the years after the war, storms over the vast burned-over, denuded lands would cause violent floods and the massive erosion of topsoil.

Numerous species extinctions in the temperate zones would be likely. But the real evolutionary losses would occur if the nuclear winter spread to the tropics, where life is adapted to year-round warmth and abundant light. Extended darkness and cold would wipe out most tropical forests — the earth's major reservoir of species. Evolution would be wrenched onto a grotesque new course.

Could homo sapiens survive?

Hundreds of millions of Northern Hemisphere residents, as well as most residents of the Southern Hemisphere, would still be alive the day after an all-out nuclear war. But consider their plight in the ensuing months of poisonous gloom. Bitter cold would kill the many who lacked proper shelter. Millions would lie seriously injured without hope of medical care; others would soon sicken from radiation, pollution, and epidemics. With the ground frozen rock-hard, even the safe disposal of bodies would pose a great challenge to the traumatized survivors.

Since lakes and streams would be frozen to a depth of several feet, obtaining water would be an arduous chore.

Fuels and manufactured goods would be scarce, transportation and communication networks largely destroyed. Yet a return to nature for direct support would provide little relief, for nature too would be sick and impoverished. Survivors would scrounge for sustenance on scarred lands being repopulated with an excess of pests and weeds.

A war in the spring or summer would, via the nuclear winter, freeze most crops — ensuring widespread malnutrition and starvation. A war in the fall or winter would destroy or contaminate many foodstocks and disrupt the supplies of seeds, fertilizers, and fuels for the next growing season. If the tropical and Southern hemisphere countries escaped the direct effects of nuclear winter, they would still face catastrophe because of the cutoff of food from North America — the world's breadbasket.

Even if a war inflicted nuclear winter on the entire planet, many people would survive for a time. But the human prospect would be dim. An international group of 40 biologists that met in 1983 to analyze the biological consequences of a nuclear winter concluded: "It is clear that the ecosystem effects alone resulting from a large-scale thermonuclear war could be enough to destroy the current civilization in at least the northern Hemisphere."

Noting the potential loss of a major fraction of plant and animal species after a large-scale war, the same group also stated: "In that event, the possibility of the extinction of *Homo sapiens* cannot be excluded." A leading Soviet scientist has portrayed the threat in stronger terms: "It is highly probable that in the post-war world, *Homo sapiens* will not have an ecological niche." To be sure, these apocalyptic notions are qualified and speculative. But there is only one way to verify them.

Scientists Discuss Impact of Nuclear War

Scientists Stephen Jay Gould, Carl Sagan and Edward Teller testified at hearings on nuclear winter held on September 12 by the House Subcommittee on Natural Resources, Agriculture Research & Environment, in support of a proposed \$50 million research project on the atmospheric and climatic effects of nuclear war. Gould and Sagan called for accompanying studies on the biological impacts of nuclear war.

At hearings held in July, the Defense Department's Richard L. Wagner noted that he, personally, expected ongoing studies to conclude that most scenarios for nuclear war — even low-level scenarios — and most combinations of variables and uncertainties, would result in nuclear winter. At the same hearings, the Arms Control & Disarmament Agency's David F. Emery, noted that the nuclear winter impact could be "useful leverage" and "a catalyst for both sides to get back to the negotiating table."

Chapter Calendar

JAN. 26, 27. **SWRCC Meeting** in Salt Lake City. Contact a SWRCC Delegate for information.

PLATEAU

Dec. 7 (FRIDAY) 7:00 p.m. **Group Christmas Party!** The festivities will take place at Tom Notte's house: 3464 S. Litzler Dr. Call 774-5904 for directions. This will be a dessert potluck so bring something sweet to eat. We will also be showing slides of "winter activities." If you have any to share . . . bring them! But mostly be prepared to Eat, Drink and be Merry!

P.S. We'll have 1985 Sierra Club calendars on hand for any last minute Christmas shoppers.

Jan. 17 (THURSDAY) 7:30 p.m. **Plateau General/Conservation meeting** at the Flagstaff Adult Center. We will have a guest speaker on a topic to be announced. For more information call 774-1571.

CANYONECHO

1425 N. Swan
Tucson, AZ 85712
323-0588

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\$8.00 per column inch (columns are 3 1/4" wide) per issue for 1-6 issues, or \$6.00 per column inch for 7 or more issues. 1/4 page \$50.00 per issue for 1-6 issues, or \$40.00 per issue for 7 or more issues. 1/2 page \$150.00 per issue for 1-6 issues, or \$125.00 per issue for 7 or more issues.

Full page ads (15 7/8 inches by 9 3/4 inches) are \$280.00 per issue for 1-6 issues or \$230.00 per issue for 7 or more issues.

Please submit crisp and camera ready ad copy that is bordered, black and white, and sized exactly.

CANYON ECHO SUBSCRIPTION BLANK

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| Plateau Group Chair Conservation | Dawson Henderson, Rt. #4, PO Box 866, Flagstaff, 86001, 774-1571 Dan Dagget, 1961 Meteor, Flagstaff, 86001, 774-7537 |
| Rincon Group Chair Conservation | Gayle Hartmann, 2224 E. 4th Street, Tucson, 85719, 325-6974 Paul Hirt, address above |

USEFUL ADDRESSES:

Pres. Ronald Reagan The White House, Wash. D.C. 20500, 1-200-456-7639
Sen. Dennis DeConcini Senate Office Bldg., Wash. D.C. 20510
Sen. Barry Goldwater Senate Office Bldg., Wash. D.C. 20510
Your Representative House Office Bldg., Wash. D.C. 20515
State Legislature State Capitol, 1700 W. Washington, Phoenix 85007
Toll Free: 1-800-352-8404

RINCON

Dec. 5 (WED) 7:30 p.m. **Ex-comm meeting** at Gayle Hartmann's, 2224 E. 4th Street, 325-6974. As this is the last meeting of my term of office as Chair, I would like to extend a special invitation to all Rincon Group members who have participated in activities this year (that includes everything from wilderness to politics to outings) to come, meet the new Group officers, empathize with each other over our few failures, and toast the year's many successes.

Dec. 7, 8, 9 (FRIDAY, SATURDAY, SUNDAY) **Fourth Avenue Street Fair.** It is time once again for us to participate in the Street Fair. This is our principal outlet for Calendars, books, T-shirts, and maps and provides much of the money that keeps us going throughout the year. For those of you who have not yet participated in local Sierra Club activities, this is an excellent place to start. Those of you who have, know this is the best people-watching show in town. If you can volunteer a couple of hours please call David Goldstein, 326-2805 or Mike Cease, 327-4705.

Dec. 13 (THURSDAY) 7:45 p.m. **Public Meeting.** Featuring "Tramping New Zealand's Southern Alps in search of ancient shorelines" by Bill Bull. Bill is a Sierra Club member and a geologist with an interest in how the shapes of hills and streams reflect the uplifting formation of mountains. A sabbatical year in New Zealand in 1982-83, and a subsequent visit (including a three month trek in the Southern Alps) led to the discovery of evidence of shore formation, even at the summits of the highest peaks. Bill will guide us through both islands, but the emphasis will be on the more scenic South Island. The meeting will be held in Room 201 of the PAS (Physics) Bldg. on the U of A Campus between 4th and 5th Streets. Parking is easiest south of Lowell St.

Jan. 5 (WEDNESDAY), 7:30 p.m. **Ex-comm meeting** at Mike Cease's, 2540 E. 8th Street, 327-4705. The meeting is open to all members.

Jan. 24 (THURSDAY) 7:45 p.m. Room 201 of the Physics Bldg. on the U of A Campus, between 4th and 5th Streets. Topic to be announced (watch the Tucson Weekly or call 887-9645).

RINCON RECYCLING REPORT. October 27th saw a half-ton of glass and aluminum, saved-up by a dozen conservationists, returned to a more useful existence. Club members Alisa Plazonja, Dave Phillips, and Brian McCarthy did the hard work of picking up and sorting while John Leonard managed the easy job of planning. "We plan to be around again about April," said John Leonard, "so if you live south of Rillito Creek and east of the Santa Cruz River, start saving your recyclables now. We'd like to see our recycling effort GROW, but that means that we need more HELP. Especially a small truck or two (bigger than a pick-up) which can be counted-on two Saturdays a year. If you're willing, call 790-5588 (evenings), or write Box 3507, Tucson, AZ, 85722."

SIERRA CLUB INFORMATION NUMBER: 887-9645.

We need volunteer leaders! Please call Jeane Broome 296-2709 in Tucson. If you are willing to lead an outing, we will find people who want to go, too, almost anywhere, anytime, and any degree of difficulty (or non-difficulty).

More Rincon News

The Baboquivari Backpack and Climb was a tremendous success thanks to great planning by Tom Vincent and great climbing leadership and instruction by Bill Hicks assisted by Jim Frankenfield. This has been a tremendously exciting year in the outings department. We have enjoyed several trips into lands to study potential wilderness areas, and areas that are now wilderness and we do have a good group of "family hikers" for our Sunday morning walks. Now that we have a beginning hopefully we can continue to share and learn through more outings of every type.

Jeanne Broome



PETROGLYPHS are some of the interesting things that can be seen on Sierra Club outings. Matthew and Nathan Anavy were fortunate to have these petroglyphs explained to them by Archaeologist and Hike Leader, Gayle Hartmann. Photo by Jeanne Broome.



SHEEP BRIDGE. Hikers rest after examining the bridge and exploring the Verde River and the area around the bridge. The bridge was built in the early 1940s by Basque sheepherders and was used to move sheep across the Verde until 1979. The bridge provides hikers access to 3 trails in the Mazatzal wilderness; Willow Springs, Dutchman Grave and the Verde River trail. The Forest Service is working with the public to decide the fate of the bridge; to rebuild, repair or destroy it. Jim Vaaler, third from right, and Tom Wright, third from left, led the trip. Photo by Diane Decker.

PALO VERDE

Dec. 11 (TUESDAY) **Ex-comm meeting** at 6:30 p.m. at the home of Sally Smith, 509 W. Highland, Phoenix, 264-9209.

Dec. 14 (FRIDAY) **Christmas Party Pot Luck Dinner.** Bring your favorite savory or dessert dish. Party to be held at Jim Catterfield's home at 888 E. Clinton, #1106, Promontory Apartments, Phoenix. Call Jim at 944-3409 for directions.

Jan. 3 (THURSDAY) 7:30 p.m. **Outings Meeting.** Home of Jerry Nelson, 711 E. McLellan, Phoenix. Outings scheduled through middle March. Bring Slides of recent trips. New leaders needed and welcome. Call 279-4668 for directions.

Jan. 8 (TUESDAY) 6:30 p.m. **Ex-comm meeting** at the home of Maureen Mageau-DeCindis, 709 W. 12th Street, Tempe. Phone 967-1018 for details. Meeting will start exactly on time.

Jan. 17 (THURSDAY) 7:30 p.m. **General Program** (To be announced) at the Pueblo Grande Museum, 4619 E. Washington, Phoenix. Refreshments and socializing at 7:00 p.m.

KOFA

Dec. 14 (FRIDAY) 6:00 p.m. **Annual Christmas Potluck** at the home of Aline Collins, 1950 E. 24th Street, Space 163, Yuma. The Kofa Group will provide the turkey and wine. Please bring a dish to share (consider salad or vegetables; last year we had a surplus of desserts) and your own table service. For more information and for reservations call Aline at 726-7278.

Jan. 10 (THURSDAY) 7:30 p.m. **Ex-comm and Conservation meeting** at the home of Pat Kenyon, 6519 Cattle Drive, Yuma. Please join your newly elected (re-elected?) representation in planning the Spring activity and outings schedule. Local conservation issues will also be discussed. Share your concerns about pesticides, wilderness, etc. Call Pat at 726-1347 for more information or to submit agenda items.

Jan. 24 (THURSDAY) 7:30 p.m. **General Meeting** at the Yuma City-County Library, 350 S. 3rd St., Yuma. The program, entitled "Desert Survival for the Occasional Explorer," features an introduction to precautions and preparations for a desert trip. This will be especially valuable information for the novice desert user. For more information call the library at 782-1871.

Feb. 7 (THURSDAY) 7:30 p.m. **Kofa Group Action Meeting** at the Hallett residence, 14629 Verde Avenue, Yuma.

CHIRICAHUA

Jan. 12 (SATURDAY) **Ex-comm meeting** at the home of Arthur Haight, 1364 Andrea Dr., Sierra Vista, AZ. This will be a Group Ex-comm and reorganizational meeting. For time and further details, call Art Haight, 458-3652 or Mike Gregory, Rt. 1, Box 25A, McNeal, AZ, 432-7340.

OUTINGS

Outings are rated for degree of difficulty and risk by the leader. As a guideline, outings are classified as follows:

- "A" More than 10 miles or more than 3,000 feet elevation change.
- "B" 8 to 16 miles and between 1,500 to 3,000 ft. elevation change.
- "C" Less than 8 miles and less than 1,500 ft. elevation change.
- "D" Less than 3 miles and less than 500 ft. elevation change.

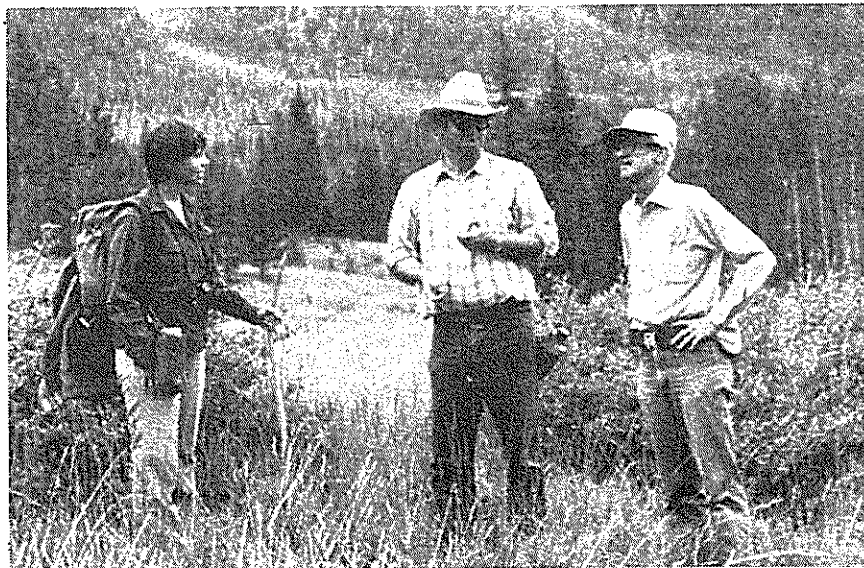
RT means round trip; OW means one way.

Name of city after the date means city of origin of the group hiking.

1. Trip leader has absolute authority to question trip participants as to their equipment, conditioning and experience before and during the trip.
2. Red Cross course in first aid is required for all trip leaders. Equivalent courses are also accepted. Cards should be current.
3. No guns, radios or pets on Sierra Club outings.
4. Sierra Club liability covers leaders only.
5. Each person is responsible for his own first aid equipment. If you are injured, notify the leader immediately.
6. If you leave the trip, with or without the leader's permission, you are considered to be on your own until you rejoin the group.
7. Hikers are encouraged to car pool and contribute 3 cents per mile for the driver's fuel expense.
8. Outings are by reservation; call the leader early.
9. Donations are accepted from all participants at 50 cents a day per member, and \$1.00 a day per non-member. Money is collected by the leader and deposited with the sponsoring group treasurer.
10. Outings are limited to twenty persons or fewer.

Dec. 1 (SAT) "A" Flatiron/Superstitions Dayhike. Very steep and very little trail. Brushy and rocky. Nice views of beautiful downtown Apache Junction. Ambitious persons can climb Superstition Mountains. 4000 foot climb. 10 miles round trip. Trip limit 20. Call Brad Houston/Slim Woodruff at 961-0308.

Dec. 8 (SAT) Saguaro National Monument Service Project. As our Christmas present to us, we will help remove "Drift Fence" from the Douglas Spring Trail in the Rincon Mountains. (For those who are curious — drift fence was put up during the time when cattle were grazed in the monument area to keep the cattle from drifting too far.) Drift fencing is no longer needed and is an eye-sore so we can be a little helpful! For details, and reservations, call Cyndi Broome 327-5384 or 296-2709 Tucson.



HERBOLOGY CLASS AT LOCKETT MEADOW. Pat Taylor listens as Dr. Clark Schack and Dr. Jim Rominger explain how to identify plants in the sub-alpine inner basin of San Francisco Peak. Schack and Rominger are professors at Deaver Herbarium (NAU), where all the plants of the state are catalogued. The two lead a Saturday morning plant identification hike, a highlight of the weekend carcamp organized and led by Pat. Picture by Diana Decker.

Dec. 8-9 (SAT-SUN) "A" Horse Mesa Backpack. Horse Mesa provides spectacular views of the central Superstitions and the southern flank of Four Peaks. We will camp at either the highest point on the mesa, with a view dominated the north by the Painted Cliffs and Four Peaks, or at a grassy bench on the Western end overlooking Fish Creek Canyon and the Superstitions. There is no surface water so bring 5 to 6 quarts. Call Chris Trask in Apache Junction at 982-7350.

Dec. 9 (SUN) "B" Willow Springs Dayhike. This hike begins at the Apache Trail and follows a canyon down to Saguaro Lake. The elevation change is slight but there is some boulder hopping and much sand walking. Hike 10 miles round trip. Drive 40 miles one way from Phoenix. Trip limit 20. Call Karl Stambaugh at 946-9186.

Dec. 15 (SAT) "C" Picacho Dayhike. An easy exploration of this California State Recreation Area. Meet at the Yuma City-County Library, 350 S. 3rd. Street, Yuma at 8:00 a.m. Bring 2 quarts water, lunch, and comfortable walking shoes. Drive is 25 miles OW north of Yuma via gravel all weather road. Call your leader, Jean Roland, at 726-7585 for more information or reservations.

Dec. 16 (SUN) "A" Butterfly Peak Dayhike. This is a rugged off trail hike in the Sierra Estrella S.W. of Phoenix. Expect continuous boulder hopping and scrambling uphill. Some elementary rock climbing is required. The craggy summit affords excellent views. Drive 5 miles from Phoenix. Trip limit 20. Carry 2 quarts water and lunch. Call Jim Vaaler at 840-3547.

Dec. 16 (SUN) Little Wild Horse Canyon by way of the Garwood Dam. Rincon Mts. 3 mi. RT.

This is another in our continuing series of "Family Hikes" especially designed for people who want to "hike" slowly and enjoy the views. All ages are welcome and beginners are encouraged to try us out. The low desert should be beautiful and the water at the corral should be delightful. For reservations and more details call Jeanne Broome, 295-2709, Tucson. Limit 20.

Dec. 29-30 (SAT-SUN) "C+" Roger's Canyon Indian ruins Backpack. Relatively level hike through scenic Superstition Mountain backcountry. Ancient Indian ruins will be visited. Hike 8 miles round trip. Drive 35 miles one way from Mesa. Trip limit 20. Call leader John Malarky days 962-3289 or evenings 892-0150.

Dec. 30 (SUN) "C-D" McDowell Mountain Regional Park Family Picnic and Dayhike. Outing to beautiful desert park between McDowell Mountains and the Verde River. Families, young children, and other outdoor lovers welcome. We'll picnic in the park with optional hike through level, cactus studded country. No age limit. Maximum number to be determined. Hike 2-4 miles. Drive 25 miles from Phoenix. Call Howard Kopp at 969-7736.

Jan. 5-6 (SAT-SUN) Harquahala Mountains Backpack. "B" Explore this proposed BLM wilderness area 80 miles west of Phoenix. Your leader was involuntarily volunteered for this one and will have more information after he's been there himself. Trip limit 20. Call Jerry Nelson at 279-4668.

Jan. 13 (SUN) "C+B" North Maricopa Mountains Dayhike. Exploratory. We will be searching for signs of the old Butterfield Stage Coach route south of Phoenix. Approximately 8 miles round trip through Butterfield Pass. This is a proposed BLM wilderness area. Drive 45 miles one way from Phoenix. Age limit 14. Trip limit 20. Call Howard Kopp at 969-7736.

Jan. 12 (SAT) "B+" Granite Mountain: the Winter Ascent. Near Prescott. Trail only goes halfway, the rest is cross-country through brush and boulders. There will be some snow and ice and cold temperatures. Hike about 12 miles depending on how often we get lost. Climb 2000 feet. Hike may be cancelled if the weather turns bad. Call Brad Houston/Slim Woodruff at 961-0308. Trip limit 20.

Jan. 19-10 (SAT-SUN) Kofa Mountain Carcamp. This trip will explore the rugged mountains of the Kofa Game Range in far western Arizona. Saturday we will drive there and take a warm-up hike. Sunday we will tackle 4877 foot Signal Peak, the highest point in Yuma County. We may see Bighorn Sheep in the area. Hike 8 miles round trip. Drive 165 miles from Phoenix. Age limit 16. Trip limit 20. Call Bob Moore at 936-1739.

Jan. 19-20 (SAT-SUN) "B" Woolsey-Bunyan Carcamp. Exploratory car camp in this proposed BLM wilderness west of Phoenix. A large volcanic dome will be visited in the area. Hiking distance to be determined. Trip limit 20. Call Karl Stambaugh at 945-9186.

Jan. 20 (SUN) Finger Rock Spring. 2.2 mi. RT. Catalina Mts. Family hike into a little visited but beautiful area in Finger Rock Canyon. As with all the Family Hikes we will go slowly and see the sights along the way. The stream should be flowing and we will see if anything really blooms in January. All ages are welcome. For reservations, call Jeanne Broome 296-2709 Tucson.

Jan. 26 (SAT) "C" Kofa Mine Tour featuring the King of Arizona (Kofa) Mine and other local mines. A rare opportunity to view Southwest Arizona history. Bring 2 quarts of water, lunch, and comfortable walking shoes. Drive is 85 miles OW north of Yuma; high clearance vehicles are preferred as much of the trip is on gravel roads. Call your leader, Fred Flick, at 344-4099 for more information and reservations.

Jan. 26-27 (SAT-SUN) "B" Aubrey Peak Backpack. Explore the volcanic cliffs and mesas of this proposed wilderness area. North of Bill Williams River in western Arizona. Drive 140 miles from Phoenix. Trip limit 15. Call Dave Mowry at 249-2625.

Feb. 2-3 (SAT-SUN) BLM Service Project. Tree planting along the Gila River. The details for this project are still in the planning stage but at the moment it looks like we can plan on a backpack or at least a camping trip to make the project more fun. This is one more chance for us to do our share to help. For details or suggestions call Jeanne Broome 296-2709 Tucson.

Feb. 2-3 (SAT-SUN) "B" South Maricopa Mountains Carcamp. Proposed BLM wilderness study trip. Exploration will criss-cross beautiful Sonoran Desert. Trip limit 20. Call Jim Vaaler at 840-3547.

Feb. 9-10 (SAT-SUN) "B" Arrastra Mountain Backpack. Another exploratory trip to a proposed wilderness in BLM. Beautiful mix of Mohave and Sonoran Desert. No known water sources so carry 6-8 quarts of water. Trip limit 20. Call Chris Trask in Apache Junction at 982-7350.

Feb. 16-18 (SAT-SUN-MON) "A" LaBarge Canyon/Superstition Mountains Backpack. We will walk the length of LaBarge Canyon. Starting at Petalta we will follow the length of LaBarge Canyon. Starting at Petalta we will follow the Red Tanks Trail to LaBarge and then down 4000 feet. Some off-trail. Section through the narrows is rugged. Trip limit 10. Call Brad Houston/Slim Woodruff at 961-0308.

Feb. 16-18 (SAT-MON) "A"-D" Mormon Lake Cross Country Ski Trip. THINK SNOW! Positive thinking may improve this year's ski season. Assuming that the weather cooperates to bring sufficient snow, we will ski various trails in the Mormon Lake vicinity. Trip details to be announced in the February Echo or available from the leaders. Call Elana or Hal Hallert between January 1 and February 8 for reservations. Trip limit is 16. Driving distance is 30 miles OW southeast of Flagstaff.

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